

## **REMARKS**

### **Status of the claims**

With the above amendments, claims 15, 40, 42, and 43 have been amended, claim 27 has been canceled without disclaimer of or prejudice to the subject matter therein, and claim 46 has been added. Accordingly, claims 15, 16, 20-23, 25, 28, 32-34, and 38-46 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. Support for the amendments can be found specifically at paragraphs [0007], [0029], [0039]-[0041], [0045], [0049], [0053], [0054], [0059], [0069], [0074], [0075], [0080]-[0082], and [0088] as well as elsewhere throughout the specification and original claims. Support for new claim 46 can be found specifically at paragraphs [0007] and [0049] as well as elsewhere throughout the specification and original claims. Reconsideration is respectfully requested in light of the following remarks.

### **35 U.S.C. § 102 and Claims 15, 16, 21, 22, 25, 27, 28, 32-34, 28-40, and 42-45**

The Examiner has rejected claims 15, 16, 21, 22, 25, 27, 28, 32-34, 28-40, and 42-45 under 35 U.S.C. § 102(b) as allegedly being anticipated by United States Patent No. 3,854,184 to Katz (hereinafter “Katz”). Applicants traverse.

Applicants respectfully submit that “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The Examiner has failed to disclose each and every element set forth in the claims.

Katz discloses a conventional shrink fit assembly.<sup>1</sup> Katz describes a demountable printing cylinder that operates by increasing the temperature of a closure to enlarge a through bore to slide the mandrel out from the end closure.<sup>2</sup> The assembly of Katz is held in place by the frictional forces exerted between the contacting surfaces of the closure and the mandrel. The physical expansion of the enclosure permits “free sliding movement of the end closures along the mandrel.”<sup>3</sup> Once the frictional force is removed or reduced, the assembly of Katz would no longer operate to keep the elements in place.

The presently recited independent claims 15, 40, 42, and 43 (as amended) each provide a method of disassembling a preloaded and interlocked assembly. A preloaded and interlocked assembly is kept in place by mechanical forces and frictional forces. The snap-fit like features provide mechanical forces while the shrink-fit like features provide frictional forces. In the absence of frictional forces in embodiments of the presently claimed methods, the assembly may stay in an assembled position. In contrast, the assemblies of Katz would not remain intact without the presence of frictional forces. In the presently claimed methods, the elements of the assembly can be preloaded and interlocked upon creation of the assembly where an element can be sufficiently deformed.<sup>4</sup>

Katz does not describe a method to disassemble a preloaded and interlocked assembly. Katz does not provide any deformation of an element to create an assembly and relies solely on the frictional forces exerted between the two elements. Thus, Katz fails to describe each and every element of the presently claimed methods.

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<sup>1</sup> See Katz, col. 2, lines 27-32.

<sup>2</sup> See *id.* at col. 3, lines 52-60.

<sup>3</sup> See *id.* at col. 3, lines 59-60.

<sup>4</sup> See Specification at ¶ [0040]

In view of the foregoing, Applicants respectfully assert that claims 15, 40, 42, and 43 are not anticipated by Katz under § 102(b) and respectfully request that the Examiner withdraw the rejection of claims 15, 40, 42, and 43. As claims 16, 21, 22, 25, 28, 32-34, 38, and 39 depend from and further limit claim 15 and claims 44-45 depend from and further limit claim 43, Applicants respectfully assert that claims 16, 21, 22, 25, 28, 32-34, 38, 39, and 44-45 are patentable over Katz and respectfully request that the Examiner withdraw the rejections of 16, 21, 22, 25, 28, 32-34, 38, 39, and 44-45.

**35 U.S.C. § 103 and Claims 20-23 and 32-34**

The Examiner has rejected claims 20, 23, and 41 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Katz. Applicants traverse.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). For similar to reasons as set forth above, Katz does not teach or suggest all the limitations of claims 15 and 40. Katz describes and teaches a demountable printing cylinder that utilizes conventional shrink-fitting techniques. The assembly of Katz relies solely upon the frictional forces exerted between two surfaces in order to keep the assembly intact. Katz does not describe or teach a preloaded and interlocked assembly that utilizes both frictional forces and mechanical forces.

Conventional shrink-fitting techniques, like those found in Katz, is a labor-intensive coupling often with high costs required to create such assemblies.<sup>5</sup> Alternatively, conventional snap-together or snap-fit techniques provide an assembly that may be easier to create, but often sacrifices rigidity. A preloaded and interlocked assembly as recited in the presently claimed

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<sup>5</sup> See *id.* at ¶ [0007].

methods provides a strong assembly with no or minimal play of clearance between the elements while utilizing minimal amount of time, effort, and energy to create the assembly. A preloaded and interlocked assembly eliminates clearances normally required by a snap-fit coupling which allows a stronger assembly.<sup>6</sup> Further, a preloaded and interlocked assembly as recited in the presently claimed methods includes elements that are sufficiently deformed to preload the assembly.<sup>7</sup>

As previously set forth, the preloaded and interlocked assembly as recited in the present methods may operate in the absence of frictional forces. Katz does not describe or teach a rigid assembly that operates utilizing frictional forces and mechanical forces where the elements of the assembly mechanically interfere with a corresponding element. Accordingly, the teachings of Katz are insufficient to render claim 15 or 40 *prima facie* obvious under 35 U.S.C. § 103(a).

In view of the foregoing, Applicants respectfully assert that claims 15 and 40 are patentable over Katz under § 103(a). As claims 20 and 23 depend from and further limit claim 15 and claim 41 depends from and further limits claim 40, Applicants respectfully assert that claims 20, 23, and 41 are patentable over Katz and respectfully request that the Examiner withdraw the rejections of claims 20, 23, and 41.

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<sup>6</sup> See *id.* at ¶ [0007]

<sup>7</sup> See *id.* at ¶ [0040].

### CONCLUSION

With the above amendments and remarks, Applicants believe that all objections and/or rejections have been obviated. Thus, each of the claims remaining in the application is in condition for immediate allowance. A passage of the instant invention to allowance is earnestly solicited.

Applicants believe that no additional fee is necessary; however, should a fee be deemed to be necessary, the Commissioner is hereby authorized to charge any fees required by this action or any future action to Deposit Account No. 16-1435.

Should the Examiner have any questions relating to the instant application, the Examiner is invited to telephone the Dean Powell (Reg. No. 58,909) at (336) 607-7347 or Ben Schroeder at (336) 607-7486 to discuss any issues.

Respectfully submitted,

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